

CLAIMS:

1. A modular engine assembly comprising:
a cylinder bore block;
a cylinder head disposed above said cylinder bore block; and

a crankcase assembly disposed below said cylinder bore block, wherein said crankcase assembly comprises an upper carrier and a lower carrier each having a plurality of bearing portions therein being integral, unitary, and one-piece.

2. A modular engine assembly as set forth in claim 1 wherein said cylinder bore block is a shape that can be made from one of a casting, molding, shaping, and extrusion from one of a group of materials comprising cast iron, aluminum, magnesium, or those materials with surface treatment.

3. A modular engine assembly as set forth in claim 1 wherein said upper carrier is a shape that can be made from one of a casting, molding, shaping, or extrusion from one of a group of materials comprising cast iron, aluminum, magnesium, or those materials with surface treatment.

4. A modular engine assembly as set forth in claim 1 wherein said lower carrier is a shape that can be made from one of a casting, molding, shaping, or extrusion from one of a group of materials comprising cast iron, aluminum, magnesium, or those materials with surface treatment.

5. A modular engine assembly as set forth in claim 1 wherein each of said bearing portions has a recess forming a support surface.

6. A modular engine assembly as set forth in claim 1 wherein said upper carrier has a cavity therein and said bearing portions being disposed in said cavity and spaced longitudinally therealong.

7. A modular engine assembly as set forth in claim 1 wherein said lower carrier has a cavity therein and said bearing portions being disposed in said cavity and spaced longitudinally therealong.

8. A modular engine assembly as set forth in claim 1 wherein said upper carrier has a plurality of cylinder bore apertures extending therethrough.

9. A modular engine assembly as set forth in claim 1 wherein said upper carrier has a plurality of first fastener apertures extending therethrough.

10. A modular engine assembly as set forth in claim 9 wherein said lower carrier has a plurality of second fastener apertures therein.

11. A modular engine assembly as set forth in claim 10 including a plurality of fasteners extending through said first fastener apertures and into said second fastener apertures to secure said upper carrier and said lower carrier together.

12. A modular engine assembly as set forth in claim 1 including a crankshaft assembly disposed between said upper carrier and said lower carrier.

13. A modular engine assembly comprising:
a cylinder bore block;
a cylinder head disposed above said cylinder bore block;
a crankcase assembly disposed below said cylinder bore block, wherein said crankcase assembly comprises an upper carrier and a lower carrier;

said upper carrier and said lower carrier each having a plurality of bearing portions therein being integral, unitary, and one-piece;

said upper carrier having a plurality of first fastener apertures extending therethrough and said lower carrier having a plurality of second fastener apertures therein; and

a plurality of fasteners extending through said cylinder head, said cylinder bore block, and said first fastener apertures and into said second fastener apertures to secure said cylinder head, said cylinder bore block, said upper carrier, and said lower carrier together.

14. A modular engine assembly as set forth in claim 13 wherein said cylinder bore block is a shape that can be made from one of a casting, molding, shaping, and extrusion from one of a group of materials comprising cast iron, aluminum, magnesium, or those materials with surface treatment.

15. A modular engine assembly as set forth in claim 13 wherein said upper carrier is a shape that can be made from one of a casting, molding, shaping, or extrusion from one of a group of materials comprising

cast iron, aluminum, magnesium, or those materials with surface treatment.

16. A modular engine assembly as set forth in claim 13 wherein said lower carrier is a shape that can be made from one of a casting, molding, shaping, or extrusion from one of a group of materials comprising cast iron, aluminum, magnesium, or those materials with surface treatment.

17. A modular engine assembly as set forth in claim 13 wherein each of said bearing portions has a recess forming a support surface.

18. A modular engine assembly as set forth in claim 13 wherein said upper carrier has a cavity therein and said bearing portions being disposed in said cavity and spaced longitudinally therealong.

19. A modular engine assembly as set forth in claim 13 wherein said lower carrier has a cavity therein and said bearing portions being disposed in said cavity and spaced longitudinally therealong.

20. A modular engine assembly as set forth in claim 13 wherein said upper carrier has a plurality of cylinder bore apertures extending therethrough.

21. A modular engine assembly as set forth in claim 13 including a crankshaft assembly disposed between said upper carrier and said lower carrier.

22. A modular engine assembly comprising:
a cylinder bore block;
a cylinder head disposed above said cylinder bore block;

a crankcase assembly disposed below said cylinder bore block, wherein said crankcase assembly comprises an upper carrier and a lower carrier;

each of said upper carrier and said lower carrier having a plurality of bearing portions therein;

said bearing portions being integral, unitary, and one-piece with said upper carrier and said lower carrier, each of said bearing portions having a recess forming a support surface;

said upper carrier having a plurality of first fastener apertures extending therethrough and said lower carrier having a plurality of second fastener apertures therein;

a crankshaft assembly disposed between said upper carrier and said lower carrier; and

a plurality of fasteners extending through said cylinder head, said cylinder bore block, and said first fastener apertures and into said second fastener apertures to secure said cylinder head, said cylinder bore block, said upper carrier, and said lower carrier together.

23. A modular engine assembly as set forth in claim 22 wherein said cylinder bore block is a shape that can be made from one of a casting, molding, shaping, and extrusion from one of a group of materials comprising cast iron, aluminum, magnesium, or those materials with surface treatment.

24. A modular engine assembly as set forth in claim 22 wherein said upper carrier is a shape that can be made from one of a casting, molding, shaping, or extrusion from one of a group of materials comprising cast iron, aluminum, magnesium, or those materials with surface treatment.

25. A modular engine assembly as set forth in claim 22 wherein said lower carrier is a shape that can be made from one of a casting, molding, shaping, or

extrusion from one of a group of materials comprising cast iron, aluminum, magnesium, or those materials with surface treatment.